

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
11 August 2005 (11.08.2005)

PCT

(10) International Publication Number
WO 2005/072260 A2

(51) International Patent Classification: Not classified

(21) International Application Number:
PCT/US2005/001981

(22) International Filing Date: 19 January 2005 (19.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/538,932 22 January 2004 (22.01.2004) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: FORMALDEHYDE-FREE ADHESIVES AND LIGNOCELLULOSIC COMPOSITES MADE FROM THE ADHESIVES

(57) Abstract: A first variant of an adhesive composition for making a lignocellulosic composite includes soy protein and/or lignin; at least one substantially formaldehyde-free curing agent that includes at least one amine, amide, imine, imide, or nitrogen-containing heterocyclic functional group that can react with at least one functional group of the soy protein; and at least one compound selected from a boron compound, a group IA oxide or hydroxide, or a group IIA oxide or hydroxide. A second variant of an adhesive composition includes a first component selected from soy protein and/or lignin; and at least one substantially formaldehyde-free curing agent selected from a reaction product of epichlorohydrin with ethylenediamine, a reaction product of epichlorohydrin with bis-hexamethylenetriamine, or a reaction product of epichlorohydrin with hexamethylenediamine.



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